

simple tubercles, which I believe is a perfectly natural one, was made by W. Kowalevsky ; but the names were suggested to him by Prof. Owen, to whom this department of zoology owes so much. The modifications of the Buonodont forms, being beside the purpose of the present communication, have not been followed out.

Finally, it may be asked what place must be assigned to the Musk-Deer in our necessarily imperfect and artificial method of expressing the relationship of living beings ? Should the genus *Moschus* be described as constituting a distinct family, *Moschidæ* ? As I apprehend the value of the term "family," I think it should not. The characters which absolutely separate it from all the recognized *Cervidæ*, if *Hydropotes* is included among them, are very trifling ; and to include *Hydropotes* with *Moschus* in one family, and leave all the other *Cervidæ* in another, appears to be a violation of natural affinities. It therefore appears most expedient to include them both as distinct generic modifications of the great family *Cervidæ*, recognizing of course that though a convenient it is not an absolutely perfect method of expressing their position in nature.

Note to the tabular view of the Classification of Artiodactyla.

The form of the odontoid process in the *Tylopoda* might lead to the idea that they were segregated from the Ruminant stock after the *Tragulina* had been given off ; but as it is also found in the horse, it is probably adaptive, as are the hypsodont molars. The union of the inner, and loss of the outer, bones of the metapodium is also a character not significant of very close relationship to the *Pecora*, as the tendency to this modification begins in the earliest period of the history of the group with which we are acquainted, as in *Anoplotherium*, and crops out even in some of the buonodonts, as the Peccaries.

2. On some new Species of *Erigone*.—Part I.
By the Rev. O. P. CAMBRIDGE, M.A., C.M.Z.S.

[Received February 26, 1875.]

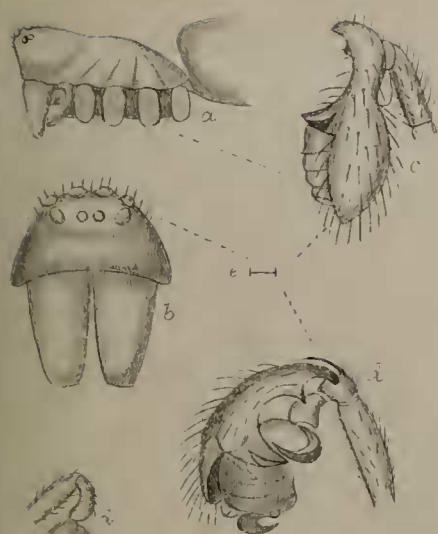
(Plates XXVII.—XXIX.)

The Spiders described in the following pages are, with one exception (*Erigone consimilis*, p. 192), a portion of a fine collection received at various times during the past three or four years from my kind friend, Monsieur Eugène Simon of Paris. The greater part are European, and were found by M. Simon himself in France, Corsica, Sicily, and Spain ; several, however, are from Morocco and Algiers.

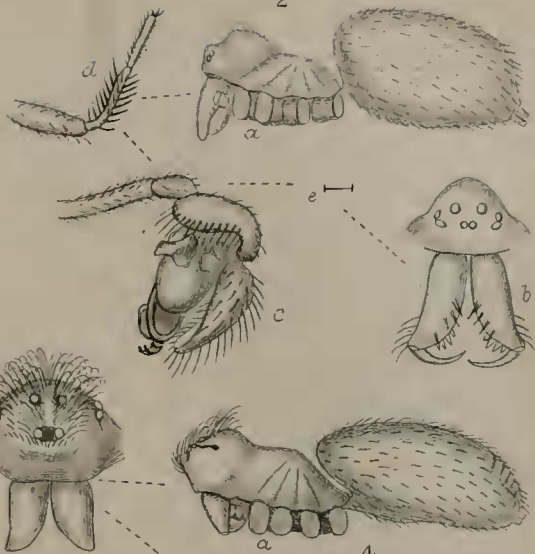
The twenty-four new species now selected for description from M. Simon's collection all (except one) belong to the group comprised in Mr. Blackwall's genus *Walckenaëra* ; in addition to these, nine others new to science (belonging to the genus *Neriene* of the same author) remain yet to be described, while the collection also contained examples of forty-four known species.

Rich as the genus *Erigone* is at present in species, it is probable

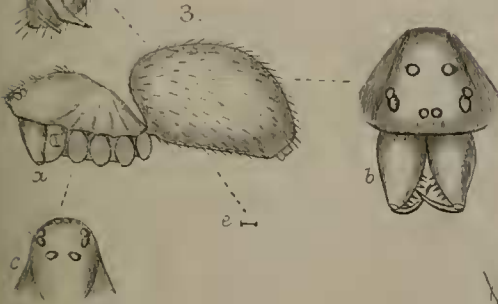
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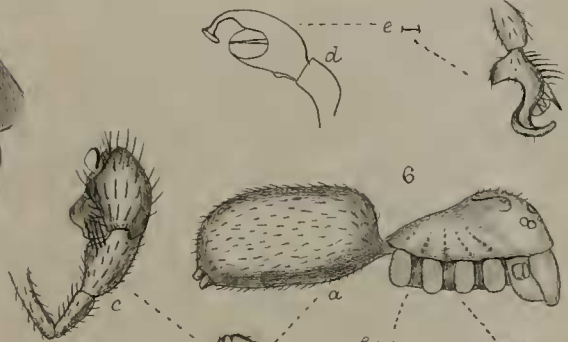
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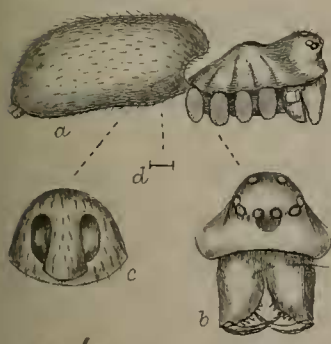
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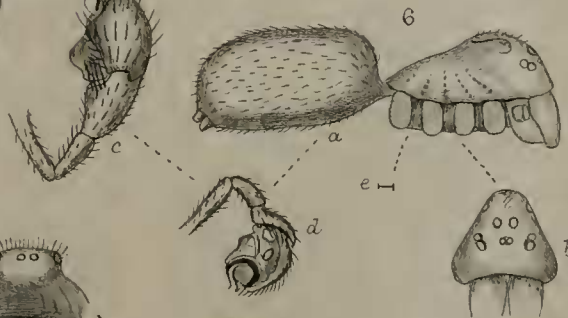
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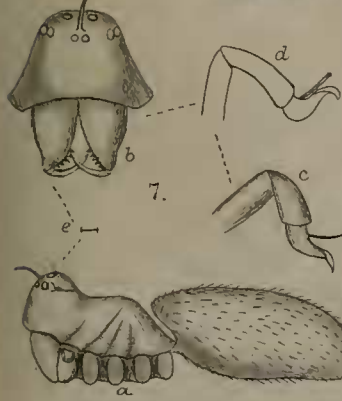
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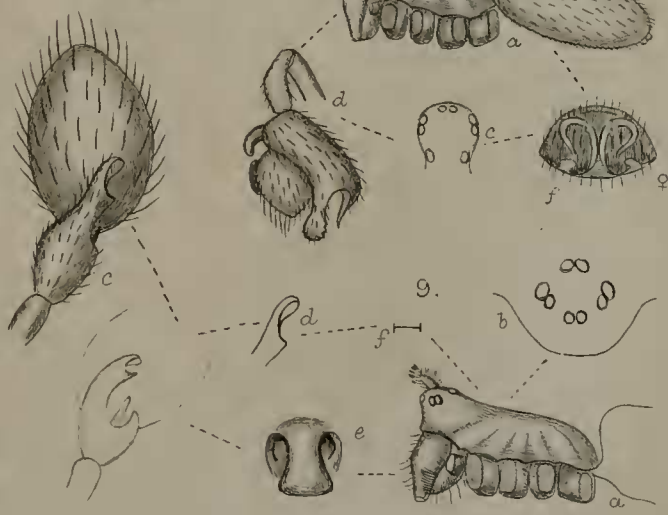
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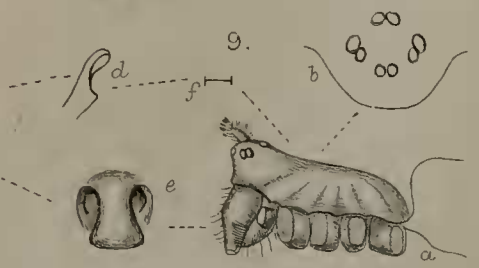
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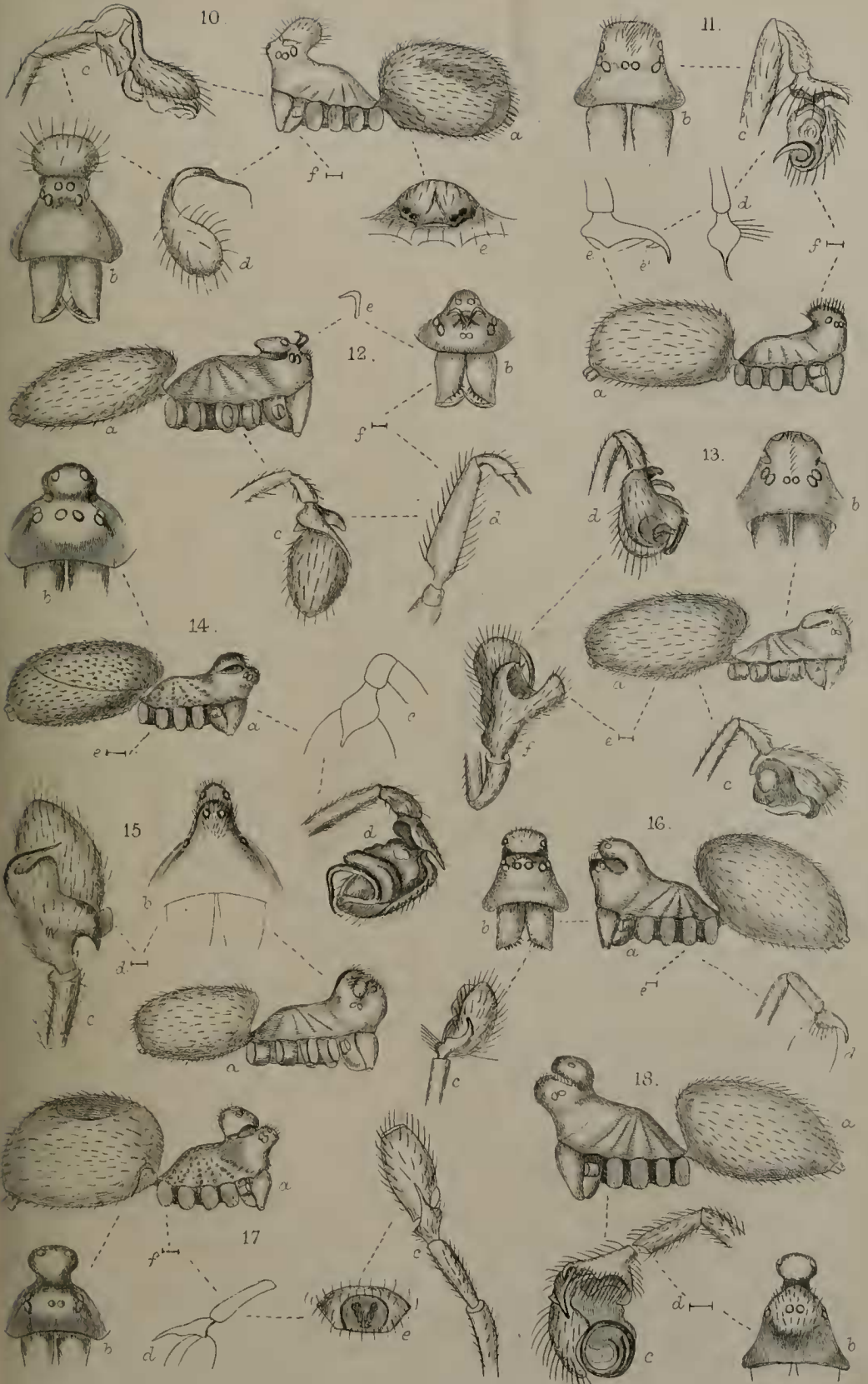


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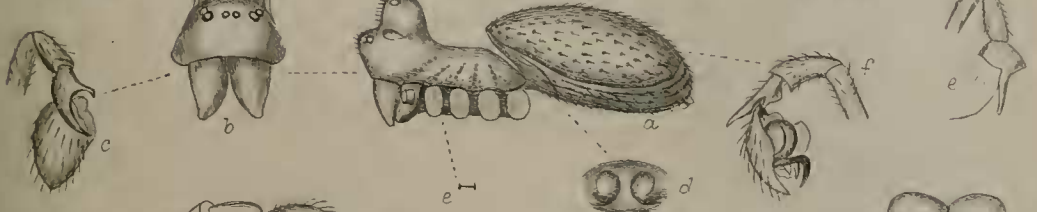




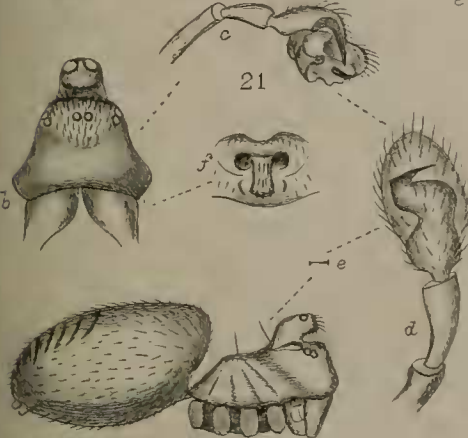
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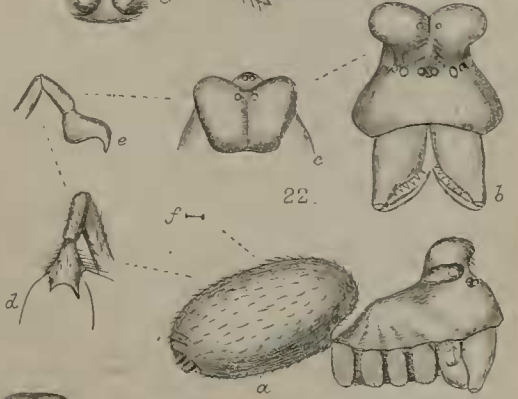
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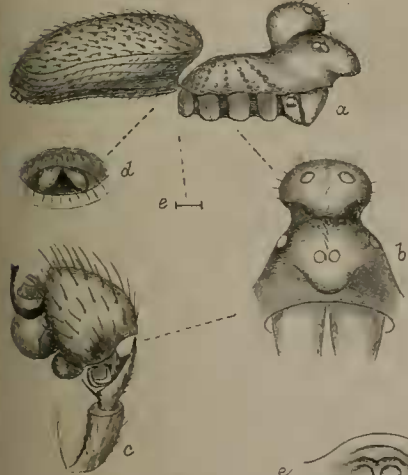
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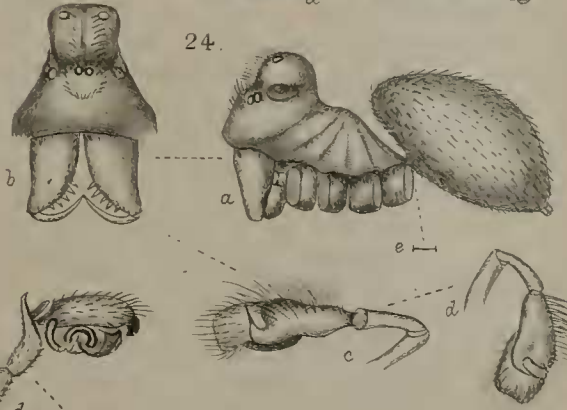
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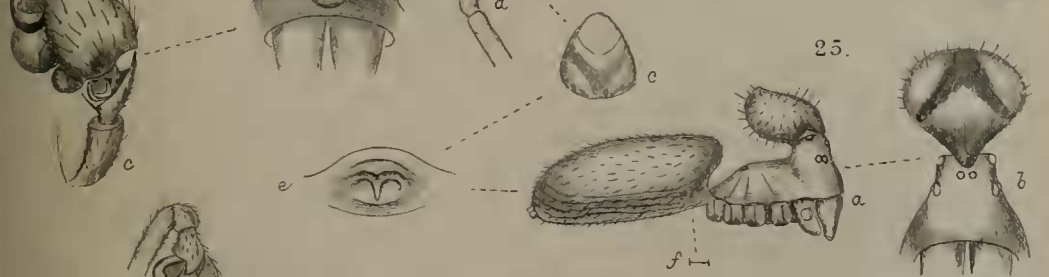
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that very many more remain to be discovered; and the number of curious and distinct conformations of the caput in the male would seem to be almost without limit. It is probably from the several distinct types of this portion of the structure that it will be found some day most practicable to break up the genus into subordinate groups. While, however, the males may be thus grouped, it appears as yet that the females do not follow the same laws of development in respect of the caput, the structure of that part in the female affording frequently no evidence at all of affinity to the male; hence arises the great difficulty, in very many cases, of deciding to which species the females belong; for it often happens that any one of several females may, as far as structure and colour are concerned, be, with equal propriety, relegated to one male. It is not difficult to distinguish the different females among themselves, since each ordinarily possesses strong specific characters; but their general similarity of form makes it exceedingly difficult to propose any method of grouping them.

ERIGONE RETROVERSA, sp. n. (Plate XXVII. fig. 1.)

Adult male, length $1\frac{1}{2}$ line.

The *cephalothorax* of this very distinct species is of a dull greenish olive colour and of a rather flattened form, the caput and thorax being nearly on the same level, and the normal grooves and indentations indistinct; the height of the clypeus is not quite two thirds of that of the facial space.

The *eyes* are of moderate size and not very unequal in their relative magnitude; they are seated on the fore part of the caput, which projects slightly forwards, in two transverse rows or four pairs somewhat closely grouped; those of the hinder row are about equidistant from each other, those of the fore central pair, which are the smallest of the eight, are rather nearer together than each is to the fore lateral eye on its side.

The *legs* are of a pale yellow colour, the tibiæ of the first and second pairs being dark olive-brown; they are long and strong, furnished with hairs and a few nearly erect slender spine-like bristles.

The *palpi* are short: the cubital and radial joints very short, but of about equal length; the former is somewhat subangularly prominent on its upperside, where it has a strong, black, tapering bristle; a similar but longer and stronger bristle springs from the upperside of the radial joint, which enlarges at its extremity, but has no prominences or projections: the digital joint is of a dark yellowish brown colour, and has its hinder extremity produced into a long, very strong and slightly tapering projection, which curves back towards the cubital joint; the length of this produced part is equal to that of the joint, and its extremity is somewhat squarely truncated and of a blackish colour; near the extremity, on its outer edge, is a strong, black, sharp pointed corneous prominence; and below this again the digital joint has a large curviangular prominent lobe; the palpal organs are well-developed, prominent, and complex.

The *falces* are long, strong, and a little inclined backwards; they are similar in colour to the cephalothorax.

The *maxillæ* and *labium* are normal and similar in colour to the *falces*.

The *sternum* is of the ordinary heart-shape, convex, glossy, and darker in colour than the *maxillæ*.

The *abdomen* is black, tinged with olive-green, glossy, hairy, and of an elongate-oval form.

An adult male of this Spider was received for examination in 1872 from M. Eugène Simon, by whom it was found near Paris. It is a most striking and remarkable species, allied to, but very distinct from, *Nerience cornigera* (Bl.).

ERIGONE CONSIMILIS, sp. n. (Plate XXVII. fig. 2.)

Adult male, length $1\frac{1}{2}$ line.

This Spider is closely allied, both in general form, colour, and size, to *E. uncana* (Cambr.); but it may readily be distinguished, *first*, by the greater gibbosity of the occiput; *secondly*, by the length and divergence of the *falces*, which are also rather weak, and, besides the usual teeth on the inner side near their extremities, are furnished with several short, sharp, tooth-like spines towards their inner margin in front; *thirdly*, by the metatarsi of the first pair of legs being bent sharply downwards at their hinder extremity (the remainder being curved upwards), and, in addition to hairs, furnished with strongish spines chiefly on the fore half of their inner side; *fourthly*, by the radial joint of the palpus, while preserving the same general form, being stronger, *very obtuse* at its extremity, and of a deep shining chestnut-brown colour, approaching to black; the palpal organs also differ in structure.

The *cephalothorax* and other fore parts are of a dark yellow-brown colour, the legs being paler.

The *abdomen* is of a dull but glossy brown, tinged with yellow and thinly clothed with hairs, showing also in spirit of wine some metallic greenish reflections; on the hinder half of the upperside is a series of pale transverse curved lines which decrease in length towards the spinners.

A single example is in the British Museum collection; its locality is uncertain, but it is believed to be European.

ERIGONE LONGIUSCULA, sp. n. (Plate XXVII. fig. 3.)

Adult male, length $\frac{3}{4}$ line.

The whole of the fore part of this Spider is of a bright orange-yellow colour, the palpi being rather paler and the abdomen jet-black. The *cephalothorax* is of the ordinary general form; the occiput is the most elevated part, whence it slopes to the clypeus, the caput being broad at its fore part but rather flattish, though with the sides tolerably well rounded. The ocular area is large and occupies the fore half of the upperside of the caput, and is furnished with short bristly hairs; the normal indentations are but faintly marked; at the hinder extremity of the occiput is a small dusky brown patch, from which several short indistinct lines of the same colour radiate. The whole surface of the *cephalothorax* is glossy.

The *eyes* are on black spots disposed in the usual four pairs, and forming an area rather broader than long; they are of moderate size and, relatively, do not differ to any very great extent; those of the hinder pair are separated from each other by rather less than two diameters; those of each lateral pair are contiguous to each other and are seated on a slight tubercle, the hind lateral eye being rather more than a diameter's distance from the eye nearest to it of the hinder pair; the fore laterals are the largest of the eight, and each is rather more than a diameter's distance from the eye nearest to it of the foremost pair; the eyes of this last pair are smallest of the eight, dark-coloured, but not quite contiguous to each other; the rest are pearly white.

The *legs* are moderate in length and strength; their relative length appeared to be 4, 1, 2, 3; there is, however, but little difference between those of the first and fourth pairs; they are furnished with hairs and a few erect and slender bristles on their uppersides.

The *palpi* are short but tolerably strong: the cubital joint is short, bent downwards, and slightly clavate at its fore extremity; the radial joint is short but is produced (on its whole width) at the upper extremity into a large and widening apophysis, which curves round in an inward direction and has its fore half bifid, the two limbs pointing outward; the inner limb is the slenderest, dark-coloured, blunt-pointed, curved, and somewhat cylindrical in form; the outer limb is stronger than the other, and goes off at its extremity into a fine and slightly curved point; this apophysis covers the greater part of the digital joint, which is small but of ordinary oval form: the palpal organs are prominent but not very complex; from their extremity, rather on the outer side, issues a long, dark brown, filiform, sharp-pointed spine, which bends round sharply upwards and backwards, continuing in that direction in a large but somewhat irregular coil, the point being directed inwards, near the extremity of the palpal organs and not far from the origin of the spine; another short, black, filiform spine runs close over the base of the palpal organs in a transverse direction, but it was difficult to see either its point of origin or its termination.

The *falces* are moderate in length and strength, rather directed backwards and armed with teeth towards their extremities on the inner side.

The *maxillæ*, *labium*, and *sternum* are normal in form, the last being slightly suffused with dusky brown.

The *abdomen* is short, oval, very convex above, and projects strongly over the base of the cephalothorax; it is jet-black in colour, glossy, and clothed very sparingly with short hairs.

An adult male of this very distinct species was received from M. Simon, by whom it was found in Corsica.

ERIGONE TRUNCATIFRONS, sp. n. (Plate XXVII. fig. 4.)

Adult male, length $\frac{3}{4}$ line.

The whole of the fore part of this Spider is of a bright yellow colour, the upper part of the cephalothorax, as well as the femora and tibiæ of the legs, being tinged with orange. The caput is broad, a little

produced, of a somewhat truncate form at its upper extremity, not very dissimilar to that of *Erigone humilis* (Bl.); looked at in profile the occiput is a little roundly convex, with a hollow between its highest part and the thoracic junction. From the summit of the occipital convexity the caput slopes gradually to the fore central eyes, spreading out laterally on both sides into a strong tuberculiform elevation; at the summit of these elevations are the lateral pairs of eyes, from behind each of which a narrow indentation runs backwards. The whole of this fore slope of the caput (including the four pairs of eyes) is clothed pretty thickly with longish and, for the greater part, bent hairs, mostly diverging from the central longitudinal line and directed backwards; these hairs are very characteristic and give the Spider a very peculiar appearance.

The *eyes* are small, seated in four rather widely separated pairs on black spots, and form a rather narrow transverse area, whose width is no more than half its length; the lateral pairs, seated (as before mentioned) on two strong tuberculiform elevations, are nearly in a straight line with those of the hind central pair; those of this latter pair are rather smaller than those of the fore central pair, and are separated by an eye's diameter; these two pairs form an oblong rectangular figure, whose length is about double its breadth; and the interval between each eye of the hind central pair and the hind lateral eye nearest to it is equal to that between each of the former and the opposite fore central eye.

The *legs* are slender and moderately long, their relative length being apparently 4, 1, 2, 3; they are furnished with hairs and a slender spine-like bristle on the upperside of each of the femoral and tibial joints.

The *palpi* are short and furnished sparingly with hairs; the cubital joint is bent and rather longer, but less strong than the radial; this latter has its fore extremity produced into a long double twisted apophysis, its extreme point being rather obtuse and directed outwards; about halfway along the outer side of this apophysis is a rather small but prominent, pointed, dark-coloured spine, not far in front of which is another small pale prominence. This part of the radial joint is not easy to be made out clearly; the digital joint is of tolerable size; the palpal organs are highly developed and rather prominent, with one or two filiform black spines connected with them.

The *fulces* are small and directed backwards.

The *maxillæ*, *labium*, and *sternum* are of normal form.

The *abdomen* is of ordinary form and projects well over the base of the cephalothorax; it is of a dull blackish colour, suffused with yellowish on the fore part of the upperside, and its hinder portion marked with a series of 5 or 6 transverse curved yellowish lines, formed by tolerably distinct folds in the epidermis; the spinners are short, small, and of a pale yellow colour, and the spiracular plates are inclosed in a large, somewhat quadrangular, yellow area.

An adult male of this very distinct species was received from M. Eugène Simon, by whom it was found in Corsica.

ERIGONE HABILIS, sp. n. (Plate XXVII. fig. 5.)

Adult female, length $1\frac{1}{3}$ line.

The *cephalothorax* of this fine species is of a deep rich chestnut-brown colour and very glossy; the caput is roundly convex above and slightly elevated; the thoracic junction is also rather elevated, so that between this point and the caput there is (when looked at in profile) a deepish hollow; the thoracic indentations are rather strongly marked, and the clypeus (the height of which is about half that of the facial space) projects a little forwards towards its lower margin.

The *eyes* are in four pairs, of tolerable size, and form a somewhat roundish oval figure; those of the hind central pair are separated by an interval equal to an eye's diameter, and each is separated by an equal space from the hind lateral eye on its side; those of each lateral pair are slightly obliquely placed, and are contiguous to each other; those of the fore central pair are the smallest of the eight, and situated rather beyond the straight line formed by the fore laterals. They are not quite contiguous to each other, but are separated by a small interval equal to that which divides each of them from the fore lateral eye nearest to it.

The *legs* are long and strong, particularly the femora and tibiæ of the first two pairs; and their relative length appeared to be 4, 1, 2, 3; their colour is yellow, except the femora, which are a bright rich orange-red, and the tibiæ of the first and second pairs, which are strongly suffused with brown; they are all well clothed with hairs, especially the tibiæ of the two pairs just mentioned.

The *palpi* are short, of a dark greenish yellow-brown colour, and furnished with hairs and longish bristles.

The *falces* are tolerably long and strong, slightly inclined backwards, a little prominent near their base in front, and similar in colour to the palpi; they are armed with sharp teeth towards the extremities on their inner sides.

The *maxillæ* and *labium* are of normal form; and their colour is similar to that of the falces, that of the sternum being like that of the cephalothorax.

The *abdomen* is oval, and projects well over the base of the cephalothorax; it is of a dull black colour, sparingly clothed with short hairs: the genital aperture is of simple but characteristic form.

A single example of this Spider was received in 1873 from M. Eugène Simon, by whom it was found at the Col de Natoia between Embrun and Barcelonnette.

Although it is possible that this may be the female of some male already described, I am inclined to think it is of a new species. It is allied to *E. unicornis*, Cambr., and to *E. clara* (id.); but the form of the cephalothorax is different and very characteristic, as also is the length, size, and colour of the legs, the brown tibial joints of those of the first and second pairs, with their more conspicuous clothing of hairs, making them very conspicuous.

It is impossible to conjecture what structure the male may possess; but it will be probably found to resemble the female in general colouring as well as in that of the tibiæ above mentioned.

ERIGONE DORSUOSA, sp. n. (Plate XXVII. fig. 6.)

Adult male, length $\frac{3}{4}$ line.

The *cephalothorax* of this Spider is of a pale dull yellowish colour slightly tinged with green; it is short, rather flattish, and of a somewhat uniform convexity, the occiput, however, being rather gibbose, but not suddenly elevated; the summit of the gibbosity is furnished with a few very short hairs, and the profile line from the summit forms a slight but continuous curve; on each side of the summit is a large, longitudinal, strongly marked indentation or excavation; and the normal thoracic indentations appeared to be marked by converging lines of very small punctures.

The *eyes* are in two transverse lines or four pairs, as nearly as possible halfway between the lower fore margin of the caput and its summit; they are of ordinary size, those of the hind central pair are separated from each other by the distance of an eye's diameter, and are nearer together than each is to the hind lateral on its side; those of the fore central pair are smallest of the eight, contiguous to each other, and each is separated from the hind central eye nearest to it by the diameter of the latter; those of each lateral pair are obliquely placed and contiguous to each other, each being separated from the fore central eye on its side by an interval rather greater than that which divides the latter from the hind central eye nearest to it.

The *legs* are short, slender, of a pale dull yellowish colour, furnished pretty thickly with hairs, and a few fine erect bristles on the upper sides; their relative length appeared to be 4, 1, 2, 3.

The *palpi* are short, of moderate strength, and similar to the legs in colour; the cubital joint is larger at its fore than at its hinder extremity; the radial is shorter and has its fore extremity expanded, with a prominent but short curved point about the middle and a short truncated projection on its outer side, on the margin near which is a row of strong bristly hairs; the digital joint is not very large, of an oval form, with a boldish prominence at the middle of its outer margin; the palpal organs are well developed and moderately complex, at their outer extremity is a black tapering spine coiled in a circular form, and its prominent point is very close to that of another fine black spine which springs from within the coil of the other.

The *falces* are of moderate length and strength, and project a little forwards; they are armed with a row of very minute teeth on their inner margin forwards, and, like the *maxillæ* and *labium*, are similar in colour to the cephalothorax.

The *sternum* is of a dull blackish colour mixed with pale yellowish, very convex and glossy, and marked thinly with minute punctures.

The *abdomen* is oval, but of a somewhat cylindrical form, and does not project over the base of the cephalothorax; it is of a dull blackish colour, and (in spirit of wine) thickly mottled with pale yellowish points and some transverse angular lines in a longitudinal series on the hinder half of the upperside; the colour of the spinners is similar to that of the legs.

An example of this minute Spider was sent to me in 1874 by M.

Eugène Simon, by whom it was found on the Glacier du Casset, in the French Alps. It is allied to *E. pallens* (Cambr.); but may be easily distinguished by the much stronger and broader indentations near the summit of the caput, and the far greater distance between the fore extremity of the indentations and the eyes of the lateral pairs.

ERIGONE ANTENNATA, sp. n. (Plate XXVII. fig. 7.)

Adult male, length $\frac{3}{4}$ line.

The *cephalothorax* of this Spider is of a yellowish-brown colour, the legs, palpi, and falces rather paler, and the underparts suffused with black; the fore part of the caput is elevated, but not very strongly; the hinder part of the elevation slopes in a rounding form; and the point of junction of the thoracic segments is a little higher than the occipital depression; the clypeus rather exceeds in height two thirds of that of the facial space; and from near the centre of the ocular area (just above the fore central pair of eyes) springs a single strong, prominent, curved, setiform spine, whose point is directed rather abruptly downwards.

The *eyes* are in the usual four pairs, or two transverse curved lines, on the fore part of the elevation of the caput; the interval between each of the hind central eyes and the fore lateral on its side is equal to that between each and the fore central nearest to it, and, with these two, forms as nearly as possible an equilateral triangle; the interval between those of the hind central pair rather exceeds an eye's diameter, and is much less than that which separates each of them from the hind lateral on its side; the eyes of each of the lateral and fore central pairs respectively are contiguous to each other, those of the former being very obliquely placed.

The *legs* are rather long and slender; their relative length appeared to be 4, 1, 2, 3; and they are furnished with (apparently) short fine hairs only.

The *palpi* are rather strong and of moderate length: the cubital joint is much longer and stronger than the radial; it is bent, and its fore extremity is considerably stronger than its hinder one: the radial joint is small and very short, its fore extremity above and rather on the inner side is produced into an apophysis whose pointed extremity curves sharply round, pointing inwards and rather downwards; from the fore part, on the upperside of the radial joint, issues a curved setiform spine of about the same length, nearly as strong as that between the eyes; its point, however, is directed upwards: the digital joint is rather large, and, having a strong prominence both at its base and outer side, is of an irregular or somewhat roughly triangular form: the palpal organs are highly developed and very complex; among other strong prominent corneous processes there is, near their outer extremity, a long, exceedingly slender, black, filiform, prominent, circularly curved spine.

The *falces* are of moderate length and strength, rather directed backwards, and armed with a few sharp teeth on their inner sides towards the extremities.

The *abdomen* is of moderate size, not very convex above, but projects over the base of the cephalothorax; it is clothed very sparingly with short hairs. and is of a jet-black colour.

The curved spine on the forehead and those on the radial joints of the palpi are very characteristic, and will readily distinguish this Spider from all other known species of this group of the genus *Erigone*.

A single example was received from M. Eugène Simon, by whom it was found with others on the Col des Ayes, Casset, in the French alpine regions.

ERIGONE VAPORARIORUM, sp. n. (Plate XXVII. fig. 8.)

Adult male, length 1 line.

The colour of the cephalothorax, falces, maxillæ, labium, and sternum is a deep rich brown, the latter nearly black; that of the legs is reddish orange-yellow; the palpi are yellow tinged with brown; the radial and digital joints dark brown, and the abdomen black.

The *cephalothorax* is prominent in front, but not elevated, the fore part of the caput being broad, obtuse, and projecting forwards; there is a rather strong, but shallow, transverse impression immediately behind the ocular area, while the occiput is full and rounded; the surface is glossy, and the ocular area is furnished pretty thickly with hairs directed backwards; the clypeus retreats strongly, and its height equals half that of the facial space.

The *eyes* are in four pairs, and present a rather unusual figure, forming a rectangle on the flattish surface of the fore part of the caput; this figure is caused by the unusually wide separation of the eyes of the hinder pair, these, which are slightly the largest of the eight, being divided by an interval almost equal to that between the fore lateral eyes; those of the foremost pair are very small, dark-coloured, and inconspicuous, and near, but not contiguous to each other; those of each lateral pair are contiguous, and have the slightest possible oblique direction, each being almost in a line with the eye of the hinder pair on its side.

The *legs* are moderate in length and strength; their relative length is 4, 1, 2, 3; they are furnished with hairs and a very few slender prominent bristles.

The *palpi* are moderately long and strong: the cubital joint is rather clavate and bent downwards: the radial joint is short, but has its fore extremity on the upperside produced into a large apophysis, covering the greater part of the digital joint, and directed inwards; the extremity of this apophysis is bifid, the upper, or outer corner being produced into a strong, roundly clavate, prominent projection, curving outwards and upwards, while the inner, or lower, corner is produced into a curved, tapering, sharp-pointed one; this clavate projection makes the length of the radial apophysis almost equal to that of the digital joint; this joint is rather large, and of an oval form: the palpal organs are highly developed, prominent, and complex; among the corneous processes of which they

are composed is one at their base on the outer side, rather prominent and obtuse at its end; from near their extremity, on the same side, a strongish pale spine curves downwards and backwards, ending in a slender, curved, filiform point; and in front of this is another, shorter and stronger, and tapering to a point, but without a filiform ending.

The *falces* are moderately long and strong, and are straight, but inclined backwards towards the labium.

The *abdomen* is oval, moderately convex above, and projects a little over the base of the cephalothorax; it is glossy, black, and sparingly clothed with short hairs.

A single adult male of this very distinct *Erigone* was received from M. Simon, by whom it was found in France (Col de Natoia, between Embrun and Barcelonnette). It is allied to *Erigone* (*Walckenaëra*) *humilis* (Blackw.), *E. affinitata*, Cambr., and *E. crassiceps* (Westr.) = *E. bucula* (L. Koch). The last two species may be distinguished from *E. vaporariorum* by their more elevated caput; while *E. humilis* has a broader and more obtuse termination to the caput, and is without the transverse depression between the ocular area and the occiput, and the backward-directed hairs from this area, both of which are strongly characteristic of the present species.

ERIGONE CORNICULANS, sp. n. (Plate XXVII. fig. 9.)

Adult male, length $1\frac{1}{3}$ line, rather more than $2\frac{1}{2}$ millimetres.

The *cephalothorax* of this species, which is very nearly allied to *E. monoceros* (Wid.), is yellow, the caput, as well as the normal indentations, being slightly suffused with dusky brown; the fore part of the caput is slightly but gradually elevated, and a little prominent; and from the centre of the ocular area there rises a distinct horn-like eminence; this eminence is slightly curved, projects forwards, and is of a tapering form, blunt at the extremity, or of a somewhat subconical shape; its fore side and summit are furnished with some short, curved, clavate, prominent hairs, and some ordinary ones issue from its hinder part.

The *eyes* are of tolerable size, and seated in four pairs round the eminence on the fore part of the caput, those of each pair respectively being contiguous to each other. The four pairs describe very nearly a circle; but the interval between each lateral pair and the hinder pair is greater than that between the lateral and front pairs; the former interval is equal to the diameter of one of the hinder pair of eyes, the latter interval to the diameter of one of the front pair.

The *legs* are long and slender, their relative length being 4, 1, 2, 3; there appeared to be, however, but little difference between those of the first and second pairs; they are similar in colour to the cephalothorax, and are furnished with inconspicuous hairs and fine bristles.

The *palpi* are slender and of moderate length; their colour is pale yellow; the digital joint, however, is suffused with brown, and the radial joint is margined with black-brown on its inside: the cubital joint is clavate, or enlarges gradually from its hinder to its fore extremity: the radial joint is shorter, but stronger, than the cubital, and

spreading, and its upperside is produced into a strong, tapering, curved apophysis, the extremity of which is directed outwards over the base of the digital joint; the extremity of this apophysis is emarginate or circularly notched on its outer side, and at its base is a short, blackish, tapering, sharp-pointed, spine-like projection: the digital joint is large and of ordinary form: the palpal organs are well developed and rather complex, with a strongish, circularly curved, tapering, sharp-pointed spine at their fore extremity, on the outer side; and from near the base of this spine, and within its curvature, there issues another, short, nearly straight, and directed rather backwards.

The *falces* are moderately long and strong, prominent above the middle of their fore sides, divergent towards their extremities, where, on their inner edges, they are armed with a few small sharp teeth; they are of a yellow colour slightly suffused with brown, and have a few prominent bristly hairs on their fore sides. On the lower part of the outer side of each falx, and rather towards the hinder part, are a few transverse, slightly oblique, parallel, scratch-like marks.

The *maxillæ* and *labium* are of normal form, and of a dull yellowish colour.

The *sternum* is yellow, convex, glossy, and heart-shaped, and furnished with a few fine, prominent, dark, bristly hairs.

The *abdomen* is oval, moderately convex above, of a dull, somewhat greenish-brown hue, and sparingly clothed with fine hairs.

Although, for the most part, the above description might apply also to *Erigone monoceros* (Wid.), yet there will be no difficulty in distinguishing the two species by the greater size and height of the eminence on the ocular area of the present species, also by the larger size of the eyes and the contiguity of those of the hinder pair, the greater size (particularly in the width) of the ocular area in *E. monoceros*, and consequently the larger intervals between the different pairs of eyes. The radial apophysis also differs in the circular emargination at its extremity being quite on the outer side, and not (as in *E. monoceros*) very nearly at its extremity; and the spine-like projection on its outer side is shorter and less conspicuous. The circularly curved spine also, at the outer extremity of the palpal organs, in this latter species is shorter and proportionally stronger; and the extreme fore part of the caput is also broader and flatter, the spider itself, too, is smaller, and, in examples that have been some time adult, more richly and darkly coloured.

This species is also allied to *Erigone directa* (Cambr.) and *E. indirecta* (ej.) (North-American species); but it may be directly distinguished by the absence in these latter of clavate hairs on the horn-like eminence of the caput, the hairs in these species being of an ordinary nature.

The female, though a little larger, and devoid of the horn-like eminence on the caput, resembles the male in colours and general characters; the eyes however are more closely grouped, and there is a distinct interval between those of the hinder pair; the fore part also of the caput is less prominent. The form of the genital

aperture is characteristic, though somewhat resembling that of several others of this group, nearly allied to each other.

A single adult example of each sex was received in 1872 from M. Eugène Simon, by whom they were (with others of the same species) captured at Sappey, in France; an adult male of the same species, but darker and more richly coloured, had been previously received from M. Simon, from the neighbourhood of Paris, but was at the time mistaken for *E. monoceros*.

ERIGONE NIGROLIMBATA, sp. n. (Plate XXVIII. fig. 10.)

Adult male, length rather less than 1 line.

The whole of this exceedingly remarkable Spider is of a pale yellow colour, the cephalothorax and legs being rather the clearest and brightest, the former margined laterally with black. The caput is greatly elevated, the upper portion being roundish oviform and directed backwards; the part occupied by the fore central pair of eyes is prominent; and the height of the clypeus exceeds half that of the facial space; a strong longitudinal indentation or excavation on each side divides the upper part of the caput from the lower; the upper part is furnished with a few fine pale hairs.

The *eyes* are very unusually placed; those of the hind central pair, instead of being placed on or near the summit of the elevated oviform portion, are placed at its lower part, one on each side immediately above and behind the hind lateral eye, and almost contiguous with it; the eyes of each lateral pair, together with the hind central one on its side, form a short curved line on each side of the caput; those of the fore central pair are the highest up of all, instead of being, as in most other species, the lowest.

The *legs* are slender, moderate in length, their relative length (apparently) 4, 1, 2, 3; they are furnished with hairs and a few prominent black slender spines and bristles, those on the two hinder pairs being the most conspicuous; whereas in the adult female those on the two foremost pairs are strongest, particularly a row on the inner side of each of the tibial joints, which are long, strong, and very similar to those on the corresponding legs of *E. sundevallii* (Westr.).

The *palpi* are moderate in length and strength; the cubital joint is longer than the radial; the latter is prominently pointed beneath at its fore extremity, and has an almost perpendicularly erect apophysis springing from near the fore part of its upperside; this apophysis appeared to be nearly or about half the length of the joint, and is truncate at its extremity, which is rather broader than the middle portion: the digital joint is oval, produced at its hinder extremity into a long, strong, curved, corneous apophysis, terminating in a tapering, twisted, or sinuous, sharp, filiform spine, whose point is directed outwards: the palpal organs are highly developed and complex; among other corneous processes a somewhat sinuously curved, black, filiform spine is connected with them at their fore part on the underside.

The *falces* are small, nearly perpendicular, and armed with a few minute teeth near their inner extremities.

The *maxillæ*, *labium*, and *sternum* are of a normal character.

The *abdomen* is of a short oviform shape, very convex above, but not projecting at all over the base of the cephalothorax; it is thinly clothed with hairs, and of a pale, dull, straw-yellow colour, with a strong, rather irregularly defined, longitudinal, dark, sooty-brown band on each side of the upper part, but these do not meet either before or behind; a somewhat similar band runs along each side of the underpart of the abdomen; and the spinners have an indistinct circle of the same colour as the bands.

The adult female resembles the male in colours and general characters, but differs in the legs being armed (as mentioned above) with much stronger and more numerous spines, and in wanting the elevation on the caput; the genital aperture is of characteristic form (fig. 10, *e*).

This Spider combines several very remarkable characters, by which the male particularly may be distinguished from all other known species of this group possessing an elevated caput—that is, the peculiar position of the hind central eyes, the long, curved, horn-like projection at the hinder part of the digital joint of the palpi, and the dark longitudinal bands on the abdomen.

An adult example of each sex was sent to me by M. Eugène Simon, by whom they were, with others, found in old faggots of pine wood at Gyé sur Seine (Département de l'Aube).

ERIGONE LEPRIEURI, sp. n. (Plate XXVIII. fig. 11.)

Adult male, length rather over 1 line.

The *cephalothorax* of this Spider is of a brightish yellow-brown colour, indistinctly but rather broadly margined on the sides with dusky brown: the caput is elevated; and its upper part overhangs the occiput, and slopes a little forwards in front; the height of the clypeus (which is nearly perpendicular) is about two thirds of that of the facial space.

The *eyes* are in the usual general position; but the wide separation of those of the hind central pair causes them to form three groups—a lateral one, on each side, of three, and a central one of two eyes; those of the ordinary hind central pair are seated, one near the middle of each side of the summit of the elevation of the caput, and the interval which separates them is very nearly equal to that between the two fore lateral eyes; each of them is also rather less than an eye's diameter distant from the hind lateral on its side.

The *legs* are moderate in length and strength, their relative length being 4, 1, 2, 3; they are of a bright orange-yellow colour, and furnished with hairs and a very few prominent bristles on their uppersides.

The *palpi* are strong, of tolerable length, and rather paler and duller-coloured than the legs: the cubital joint is rather long (half the length of the femoral joint), bent, and enlarged gradually to its fore extremity: the radial joint is short, spreading, and its fore extremity on the upperside is produced into a tolerably long, not very strong, but rather curved apophysis, having near its ex-

tremity on the underside a small, sharp, black, tooth-like spine, directed rather backwards; from the outer side of this joint there arise several strong bristles, besides others less strong: the digital joint is not very large, it is of a short oval form, and has a strongish prominence past the middle of the outer side: the palpal organs are prominent but not very complex; at their extremity on the outer side is a very strong, tapering, sharp-pointed, strongly curved spine or, rather, spiny process.

The *falces* are small, vertical, armed with a few very minute teeth on their inner sides near the extremity, and similar to the cephalothorax in colour.

The *maxillæ* and *labium* are of normal form, and similar in colour to the falces.

The *sternum* is of a deep brown colour.

The *abdomen* is oval, tolerably convex above, jet black in colour, glossy, and sparingly clothed with hairs.

An adult male of this very distinct species was received in 1874 from M. E. Simon, by whom it was found in Algeria.

ERIGONE STYLIFRONS, sp. n. (Plate XXVIII. fig. 12.)

Adult male, length not quite 1 line.

The whole of the fore part of this Spider is bright yellow, the cephalothorax being strongly tinged with reddish orange, and the femora and tibiæ of the legs with orange: the caput is more or less suffused with black-brown; towards its fore part is a not very large oval eminence, the hinder portion of which is obtusely pointed and directed backwards on each side; dividing it from the lower segment of the caput is a strong longitudinal indentation, extending from each hind lateral eye to the hinder part of the eminence; in front of this eminence is another small one, from which two sharply curved or bent, styliform, prominent and divergent projections issue, these projections are of a pale yellowish colour, diaphanous, and their sharp-pointed extremities are directed backwards and outwards; between them and the fore central pair of eyes are some short prominent black bristly hairs.

The *eyes* are small, not greatly differing in size, and are placed in the usual four pairs on black spots; those of the hinder pair are separated from each other by a diameter's distance, in a transverse line near the upper fore margin of the eminence on the caput; those of each lateral pair are contiguous to each other, and placed on a slight tubercular eminence; those of the fore central pair are smallest of the eight, dark-coloured, almost contiguous, and placed a little in advance of the straight line formed by the two fore lateral eyes. The extreme length and breadth of the ocular area are about equal; if any thing, the breadth is rather the greatest.

The *legs* are tolerably long and slender, except the femora of the first and second pairs, which are stronger than usual, principally towards their base on the upperside; their relative length is 1, 4, 2, 3; and they are furnished with hairs only.

The *palpi* are slender and moderately long, the cubital joint is

longer than the radial, slightly clavate, and bent downwards; the radial is very short, produced behind into a strong obtuse apophysis, and in front into a long, tapering, rather curved, pointed one, which fits rather closely upon the external surface of the digital joint and is directed outwards; the digital joint is of moderate size; and the palpal organs are neither very prominent nor complex; at their extremity is a very slender filiform, sharp-pointed, circularly curved, closely-fitting spine.

The *falces* are of moderate length; but not very strong; they are very nearly vertical, and armed on their inner edges towards the extremity with minute denticulations.

The *maxillæ* and *labium* are of normal form.

The *sternum* is of the ordinary heart-shape, and very convex and glossy.

The *abdomen* is oval, moderately convex above, of a jet-black colour, thinly clothed with hairs, and projects, but not very strongly, over the base of the cephalothorax.

An adult male of this Spider, which is nearly allied to *Erigone antica* (Wid.) and *E. flavida* (Menge), was received from M. Simon, by whom it was found in Corsica.

ERIGONE EBORODUNENSIS, sp. n. (Plate XXVIII. fig. 13.)

Adult male, length barely 1 line.

The cephalothorax, falces, maxillæ, and labium of this Spider are yellow-brown, the legs and palpi dull yellow, the digital joints of the latter strongly tinged with brown, the sternum and abdomen dull brownish black.

The fore part of the *cephalothorax* is bluff and obtuse, the caput being slightly elevated, the summit rounded, the occipital slope tolerably abrupt; the ocular area slopes forwards, and its profile, with that of the clypeus (whose height equals not quite half that of the facial space), forms an almost evenly curved line; from a little above and behind each hind lateral eye a deep tapering indentation runs backward in a horizontally longitudinal line to the lower part of the occiput; the other, normal, indentations are fairly but not very strongly marked; the ocular area has a few short hairs in a longitudinal central line; some of these are directed downwards, and some upwards.

The *eyes* are in the usual four pairs and seated on black spots; those of one pair, situated on the fore part of the summit of the caput, just at the beginning of its front slope, are separated by nearly two diameters; the two lateral pairs are placed at a considerable distance below; those of each of these pairs, respectively, are contiguous to each other and placed slightly obliquely, and with the eyes of the upper pair they form a quadrangular figure, three sides of which are about equal in length, while the fourth (*i. e.* the upper) side is considerably less; the eyes of the fore central pair are the smallest of the eight, dark-coloured and obscure, contiguous to each other, and placed in a straight line with the two fore lateral eyes; except the fore central pair, the eyes are shining pearly white.

The *legs* are slender, moderately long, furnished with hairs, and a very few slender prominent bristles on their uppersides.

The *palpi* have the humeral joint moderately long and slender: the cubital joint is clavate, slightly bent downwards, and about half the length of the humeral joint: the radial joint is short, spreading, prominent behind, and produced at its fore extremity on the upper-side into a very large apophysis, covering the greater portion of the digital joint; this apophysis is considerably the broadest at its fore extremity, where it is strongly emarginate or bifid, the outer limb of the bifid part being the longest, prominent, and obtuse, and broadest at its extremity; the inner one has a curved point directed rather downwards, and just within this curved point is a small, slightly-curved, sharp-pointed spine: the digital joint is of moderate size and of a somewhat oblong form: the palpal organs are well developed and complex; from their fore extremity a strong, black, tapering, sharp-pointed spine curves round outwards and backwards in a somewhat sinuously circular form.

The *falces* are neither very long nor strong; they are obliquely cut away on their inner sides towards the extremities, armed with minute teeth, and directed strongly backwards towards the maxillæ.

The *maxillæ*, *labium*, and *sternum* are normal in form and structure.

The *abdomen* is large, of an oval form, tolerably convex above, and projects over the base of the cephalothorax; it is of a dull brownish black colour, and sparingly clothed with short hairs.

A single example of the adult male of this species was sent me by M. Eugène Simon from the Col de Natoia in France; it is very similar to some others in the form of the cephalothorax; but the structure of the palpi will serve to distinguish it at once.

ERIGONE COCCINEA, sp. n. (Plate XXVIII. fig. 14.)

Adult male, length nearly $1\frac{1}{4}$ line.

The cephalothorax, falces, maxillæ, labium, and sternum, as well as the upper part of the abdomen, of this Spider are of a bright orange-red colour, that of the legs and palpi being bright orange-yellow.

The *cephalothorax* has the hinder, or thoracic, portion marked with strong circular punctures, disposed in converging lines, following mainly the course of the normal indentations: the caput has an oval, tolerably strong eminence near the occiput; the fore extremity of the caput is also prominent, thus dividing the caput into two tolerably distinct lobes, of which the foremost or lower one is the strongest; the upper lobe is divided laterally from the lower one by a large excavation running backwards from its broadest and deepest part, above and behind each lateral pair of eyes, to the hinder part of the upper lobe (or eminence); the front slope of this eminence is steep though rounded; but the hinder one is much more gradual: the height of the clypeus is about half that of the facial space, its upper part is rounded and prominent, the lower part impressed and retreating; on the fore slope of the cephalic eminence are a few bristly black hairs directed forwards and downwards, meeting a few

others directed contrarily from the upper part of the lower segment of the caput.

The *eyes* are of tolerable size, and do not differ greatly in this respect; they are placed in the usual four pairs on small black spots; those of one pair, on the upperside of the fore part of the cephalic eminence, are separated from each other by an interval of about two diameters' extent; another pair is seated on each side of the upper part of the lower segment; the eyes of each of these lateral pairs are contiguous to each other, the eyes of the fourth, or fore central, pair are not quite contiguous to each other, being separated by nearly half a diameter; they are of an oval shape and rather obliquely opposed to each other, and, though rather darker than the rest (which are pearly white), are lighter-coloured and larger than usual, being equal in size to those on the cephalic eminence; the width of the ocular area at its widest or lower part a little exceeds, transversely, the length of its longitudinal diameter; the eyes of the fore central pair are placed a little above the line of the fore laterals, and each of these is separated from the fore central nearest to it by the diameter of one of the former.

The *legs* are moderate in length and strength; their relative length appeared to be 4, 1, 2, 3; they are furnished, but not very conspicuously, with short hairs.

The *palpi* are short; the cubital joint is slightly clavate at its fore extremity, and a little bent downwards; the radial joint is shorter than the cubital, and rather spreading above at its fore part, whence it is produced into a not very long, but rapidly tapering, pointed apophysis, the point being very slightly curved and rather pointed outwards; the digital joint is of tolerable size and ordinary form: the palpal organs are prominent, well developed, but not very complex; near their centre is a strong, transverse-oval, pale yellowish, corneous, convex lobe; and immediately in front of or below this is a strong, somewhat sinuously and circularly curved, sharp-pointed, black-brown spine.

The *falces* are neither very long nor strong; they are directed a little backwards, and have a few minute teeth on their inner edge towards the extremities.

The *maxillæ* and *labium* are of normal form; and the *sternum* is slightly marked with punctures.

The *abdomen* is rather large, and of a broad-oval form, tolerably convex above; the upper part is covered with a very distinct, coriaceous, thickly and strongly punctured epidermis of a rich orange-red colour, the sides and lower part being of a pale straw-yellow colour, spotted with minute orange-brown points or punctures; it is thinly clothed with short hairs; the spiracular plates and space between them, as well as a small oval portion in front of the spinners, are also of an orange-brown colour.

An adult male of this brightly coloured Spider, which is allied to *E. bucephala* (p. 217), was received from M. Simon, by whom it was found in Morocco. In the form of the cephalothorax it bears some resemblance to many other species; but its colour, combined with the

punctured surface of the abdomen, thorax, and sternum, and the structure of the palpi and palpal organs, will serve to distinguish it readily from other European species possessing a somewhat similarly formed caput.

ERIGONE FORAMINIFERA, sp. n. (Plate XXVIII. fig. 15.)

Adult male, length 1 line.

The *cephalothorax* is glossy and of a deep blackish-brown colour; the normal indentations are tolerably strong, and the surface near the margins is somewhat rugulose: the caput has the fore part, which is rather lighter-coloured, elevated and prominent; it is divided into two nearly equal lobes by a deep transverse cleft; the upper fore margin of the hinder lobe and the hinder margin of the front lobe approach each other pretty closely, but do not meet; the front lobe is rather the strongest, but of less height than the hinder one, the deepest point of the cleft is on a level with the profile line of the hinder part of the caput; the summit of each lobe is furnished pretty thickly with hairs, some of which meet over the cleft.

The *eyes* are in the usual four pairs; one pair is seated near the summit of the hinder lobe of the caput, an eye being on either side of it, another pair on the fore part near the summit of the front lobe, separated from each other by rather more than an eye's diameter, and a pair on either side a little below the base of the cleft: the eyes of each of these last two pairs are contiguous to each other; those of the front lobe are dark-coloured, indistinct, and the smallest of the eight; the rest are conspicuous, of a shining pearl-white, and do not differ much in size; the height of the clypeus considerably exceeds half that of the facial space.

The *legs* are slender, of moderate length, their relative length being 4, 1, 2, 3; they are of a dark orange-yellow colour, slightly tinged with brown, furnished with hairs, and a single, spine-like, prominent bristle on the upperside of each of the genual and tibial joints of the third and fourth pairs; there are several other bristles on the corresponding joints of the first and second pairs, but these are slenderer and less conspicuous.

The *palpi* are moderate in length and strength, of a yellow-brown colour, the radial and digital joints dark brown and furnished with hairs: the cubital joint is rather clavate, bent downwards, and much longer than the radial, which last, however, has the appearance of greater length from being produced at its fore extremity, on the upperside, into a long and broad apophysis, covering a large portion of the digital joint; this apophysis is of a somewhat oblong form, with a sharp-pointed tapering spine at its fore extremity on the inner side, bent sharply round and running across near its fore margin, which it rather exceeds in length, and a strong, rather bent, pointed prominence at its base on the outer side; it is also rather produced behind: the cubital joint has a single, prominent, spine-like bristle at its fore margin on the upperside; the digital joint is large and of ordinary form; the palpal organs are prominent and complex, with corneous processes and spines, and a prominent, tapering, pointed, slightly

curved, pale-coloured spine projects, with rather an outward direction, from their fore extremity.

The *falces* are moderately long and strong, and rather obliquely cut away towards their inner extremities, where they are armed with small sharp teeth; they are similar in colour to the fore part of the caput.

The *maxillæ* and *labium* are of the usual form, and of a deep brown colour.

The *sternum* is of ordinary shape, of a deep brown-black colour, glossy, furnished with a few fine bristly hairs, and, under a lens, apparently marked with a few fine punctures.

The *abdomen* is oval, tolerably convex above, and projects over the base of the cephalothorax; its colour is a glossy black, clothed sparingly with hairs.

This Spider, of which two examples were sent to me by M. Eugène Simon, from France (Col de Natoia), is allied to *E. alpina* (Cambr.) and *E. cucullata*, Koch; but it may easily be distinguished by the larger proportional size of the front lobe of the caput, which in those two species is smaller than the hinder lobe; it is also allied to *E. cristata* (Bl.); but the very different form of the caput and its cleft, as well as its larger size and shorter form, will distinguish it at once both from that and its near ally *E. permixta* (Cambr.). In the form of the caput and the cleft which divides it into two lobes, *E. foraminifera* bears a strong resemblance to *E. fissiceps* (Cambr.), a North-American Spider; but the smaller size of the latter, its different colours, and the coriaceous punctured epidermis of the upperside of the abdomen, as well as the strikingly different form of the palpi, will distinguish it at a glance.

ERIGONE LUCASI, sp. n. (Plate XXVIII. fig. 16.)

Adult male, length $\frac{2}{3}$ of a line.

The *cephalothorax* is of a dark blackish-brown colour, the thoracic indentations indicated by black lines; the greater part of the caput is strongly elevated, the elevation projecting rather forwards, and separated from the fore part of the caput proper by a strong transverse indentation; the occipital region of the elevation forms a sloping curved profile-line; a large deep longitudinal indentation or excavation divides the elevation from the caput on either side; the fore part of the elevation is clothed with a few short hairs, mostly directed downwards, and meeting others directed upwards from the fore part of the caput; the height of the clypeus considerably exceeds half that of the facial space.

The *eyes* are in the usual four pairs; those of the upper (or hind lateral) pair are placed one on each side of the fore part of the summit of the elevation, and form a line only a very little, if any, shorter than that formed by the two fore lateral eyes; those of each lateral pair are placed on the sides of the fore part of the caput proper (or lower segment of the caput); and those of the fore central pair are on a strongish tubercular prominence, very indistinct, though not very minute, and not quite contiguous to each other.

The *legs* are rather short and not very strong; they are of a bright orange-yellow colour, furnished with hairs, and their relative length is 4, 1, 2, 3.

The *palpi* are of moderate length and strength, and of a dull yellow colour; the cubital joint is rather long, and nearly cylindrical in form; the radial is very short, and its fore extremity on the upperside is produced into a not very long, enrvd, tapering, and not very sharp-pointed apophysis directed strongly inwards; on the outer margin of the radial joint is a group of prominent bristly hairs; the digital joint is small; and the palpal organs are rather prominent, but not very complex or presenting any very marked feature.

The *falces* are small, nearly vertical, similar to the palpi in colour, and armed with a few very minute teeth on their inner sides towards the extremity.

The *maxillæ* and *labium* are normal in form, and rather darker in colour than the falces.

The *sternum* is tolerably convex, glossy, and of a deep black-brown colour.

The *abdomen* is of a short oval form, and considerably convex above; it projects a good deal over the base of the cephalothorax, and is of a glossy jet-black colour, clothed sparingly with short hairs.

An adult male of this Spider was forwarded to me in 1874 by M. Simon, by whom it was found at Algiers. By its specific name it is dedicated to Mons. H. Lucas (Curator of the Jardin des Plantes, Paris), whose voluminous work on the articulate animals of Algiers is too well-known to need more than a passing reference.

ERIGONE INEDITA, sp. n. (Plate XXVIII. fig. 17.)

Adult male, length nearly 1 line.

The *cephalothorax* is small, of a dull darkish yellow-brown colour, the converging indentations of the thorax indicated by rows of not very distinct pock-like marks or punctures; the fore part of the caput is rather prominent, and on the hinder part, at the occiput, is a strong, somewhat globular eminence, strongly constricted or excavated at the sides where it joins the caput; the hinder part of the eminence is well rounded; the fore part, looked at in profile, slopes rather downwards, and there is a deepish transverse indentation between it and the ordinary prominence of the caput, thus forming two distinct segments, of which the hinder one is the largest when seen in profile; the height of the clypeus is less than half that of the facial space; there are a few short prominent hairs on the cephalic eminence, and a few on the lower segment.

The *eyes* are in the usual four pairs; those of the upper pair are in a transverse line, nearly two diameters from each other, on the upper part of the cephalic eminence near the summit at the beginning of the front slope; those of each lateral pair are at the upper part on either side of the lower segment of the caput, close in front of the fore extremity of the lateral excavation, and they are contiguous to each other; those of the fore central pair are the smallest

of the eight, dark-coloured, indistinct, and seated contiguously (or nearly so) to each other at the extremity of the lower segment of the caput; the longitudinal diameter of the ocular area is greater than its transverse one.

The *legs* are moderately long, slender; and their relative length appeared to be 4, 1, 2, 3; they are furnished with inconspicuous hairs, and a very few slender erect bristles on their uppersides; the colour of the legs is yellow.

The *palpi* are rather long, slender, and their colour is similar to that of the legs; the cubital joint is long and slightly clavate: the radial joint is short, with its fore extremity, rather towards the outer side, produced into a fine, tapering, pointed, almost straight apophysis; the length of the joint with its apophysis is about half that of the cubital joint; the digital joint is rather small, and of ordinary form; the palpal organs are neither very prominent nor complex; in close contact with them, and at their extremity, is a small circularly curved sharp filiform spine.

The *falces*, *maxillæ*, and *labium* are rather lighter in colour than the cephalothorax, but present nothing unusual in form or structure.

The *sternum* is of ordinary form, and its colour is dark black-brown.

The *abdomen* is of a short oval form, very convex above, and of a pale, dull, straw-yellow colour, with a large dark-brown oval patch on the fore part of the upperside; and it is sparingly clothed with short inconspicuous hairs; the spinners are rather larger than usual, but perhaps they may have been accidentally protruded.

The adult *female* is rather larger than the male, but resembles it in colours and general characters; the caput, however, wants both the eminence and prominence of that sex, being merely of the ordinary form, with the occipital region slightly convex and rounded, and the clypeus prominent or, rather, projecting forwards. The genital aperture is somewhat horseshoe-shaped, and has within its opening some small processes, which, when looked at in profile, give it a rather prominent appearance.

An adult example of each sex was sent to me in July 1871, by M. Simon, by whom they were found in the neighbourhood of Paris; it is allied to *E. trifrons* (Cambr.); but the pale colour of the abdomen distinguishes it at a glance, besides the marked differences in the form of the caput and structure of the palpi.

ERIGONE CAPITO (Westr.). (Plate XXVIII. fig. 18.)

Adult male, length $1\frac{1}{2}$ line.

The colour of the cephalothorax of this rare and remarkable Spider is a deep shining brown; the legs are orange-yellow, rather long, moderately strong, and furnished with hairs only; the palpi are similar in colour, except the digital joints, which are dark brown; and the abdomen is black.

The fore part of the caput has a strong elevation, and is divided into two segments—the lower one (comprising the fore part of the caput proper) prominent and rather produced forwards, the upper

one springing from the occiput ; the latter elevation is oval, rounded, and projecting forwards, lies nearly close upon the lower one ; between them, however, there is a perceptible division, so that the junctional portion, at the occiput, forms only a kind of neck ; the clypeus retreats, and is hollow in its profile-line. Two eyes are placed near the fore side of the summit of the upper segment of the caput, and six (in three pairs) on the fore part of the lower segment, in the ordinary position. The *palpi* are moderately long, and not very strong, except the digital joint, which is large ; the radial joint is shorter than the cubital, but strong and spreading at its fore extremity, the upper part of which, on the inner side, is produced into a long, strong, curved apophysis, whose extremity is of a somewhat bifid form and directed outwards ; on the outer edge of the apophysis are one or two sharpish prominent points ; the palpal organs are well developed and prominent, with a strong, sharp-pointed, black spine, coiled in a circular form, near their extremity on the outer side.

An adult male was received for examination, in April 1872, from M. Eugène Simon, by whom it was found near Paris.

Believing this Spider to be the *E. capito* of Westring, I forwarded a drawing of the cephalothorax to Dr. T. Thorell (of Upsala), by whom the typical example, described by Westring ('*Aranæe Suecicæ*,' p. 213), was found in Sweden ; Dr. Thorell, in reply, confirms my conjecture as to its specific identity. Since that time, M. Simon has, in January 1874, kindly sent me another adult example of the same sex, found by himself at Bourg-d'Oisans, France.

ERIGONE HETEROGASTER, sp. n. (Plate XXIX. fig. 19.)

Adult male, length rather less than 1 line.

The *cephalothorax* is of a dark yellowish brown colour ; it is small in comparison with the size of the abdomen ; the occipital region is elevated into a large roundish knob-like eminence ; and on either side, at its fore part, separating it from the caput, is a large and deep horizontal oval excavation, almost perforating the base of the eminence ; these lateral excavations, like the corresponding ones in many other species, taper backwards, and run out near the hinder part of the occiput ; the ordinary converging grooves of the thorax are indicated by fine blackish lines and not very distinct roundish punctures ; the occipital eminence is smooth, glossy, and its upper and fore sides are furnished with a few short hairs ; the fore part of the caput, forming its lower and rather the smallest segment, is rather prominent, the clypeus retreating, and less in height than half that of the facial space, and its upper part is also furnished with some short hairs.

The *eyes* are small and tolerably equal in size ; they are in the usual four pairs ; those of the upper (or hinder) pair are placed widely apart (rather more than three diameters) on the fore part, at the upperside, of the occipital eminence ; those of each lateral pair are contiguous to each other, and placed rather obliquely on either side of the lower segment of the caput ; between the lateral pairs, and

in the same straight line, is the fore central pair, the eyes of which are rather larger than usual and not quite contiguous to each other; each of them is separated from the fore lateral on its side by a little more than the diameter of the latter. All the eyes form a quadrilateral figure, longer than broad, and its hinder side longer than its fore side.

The *legs* are moderate in length, their relative length being 4, 1, 2, 3; they are slender, of an orange-yellow colour, and sparingly furnished with short hairs.

The *palpi* are short, slender, and similar in colour to the legs; the cubital joint is of moderate length, gradually converging from its fore extremity to its hinder one; the radial joint is short, rather dilated, and has its fore extremity on the upperside produced into a longish, rather slender, nearly straight, slightly tapering, not very sharp-pointed apophysis, having the same general direction as the cubital joint; the digital joint is small, and of the ordinary oval form: the palpal organs are neither very prominent nor complex; they have a small black filiform coiled spine at their fore extremity, but otherwise they present no remarkable feature.

The *falces* are small, straight, nearly perpendicular, similar in colour to the cephalothorax, and armed with a few minute teeth towards the extremity on their inner surface.

The *maxillæ* and *labium* are of normal form, and similar in colour to the falces.

The *sternum* is of a deep brown colour, and its surface is marked with roundish punctures.

The *abdomen* is large, of broad oval form; along the middle of the fore half of the upperside is an oval coriaceous patch of a darkish yellow-brown colour; the hinder part of this patch is the most obtuse; on either side, and throughout its whole length, the abdomen is dilated, forming a kind of cushion, which rises above the central portion; these dilatations are of a dull yellowish whity-brown colour, obscurely mottled with largish spots of a deeper hue; the hinder part of the central portion is of a dull brownish colour, with some obscure, pale, transverse curved lines, perhaps visible only in spirit of wine. The spinners are enclosed in a sort of short, sheath-like case, split into several portions.

The adult female is rather larger than the male, but is similar in general form and colouring; the cephalothorax, however, has no trace of the occipital eminence; and the relative length of the legs is different, 1, 4, 2, 3; the abdomen has the same peculiarity of form, but not so marked in its character, and the oval coriaceous patch on the fore part of the upperside is wanting. The form of the genital aperture is characteristic (see *f*, fig. 19, Plate XXIX.).

An adult example of each sex of this very distinct species (which may be easily distinguished by the form of the abdomen alone) was received from M. Eugène Simon, by whom it was found at Morocco.

ERIGONE THORACATA, sp. n. (Plate XXIX. fig. 20.)

Adult male, length $\frac{2}{3}$ of a line.

The *cephalothorax* of this species is of a deep brown colour; the

sides of the thoracic region are marked with numerous roundish punctures; and the fore part of the caput is bold and prominent, with a strong and pretty high eminence on its occipital portion; on each side of this eminence, at its fore part, just behind the lateral pairs of eyes, is a short, somewhat oval, indentation, running backward towards the occiput; the clypeus is rather full, but retreating, and slightly exceeds in height half that of the facial space; when looked at in front the occipital eminence is distinctly divided into two lobes by a longitudinal valley or indentation; these lobes (looked at from the same point) have a direction slightly divergent from each other. The fore side of the occipital eminence, as well as the upper part of the caput in front of it, is clothed with a few short prominent hairs.

The *eyes* are small and in the usual position; those of the hind central (or upper) pair are placed on the fore part of the summit of the occipital eminence, or one on each of the lobes into which it is divided; they are thus very widely separated from each other, and form a transverse line rather longer than that formed by the three other pairs, which are seated at the upper fore extremity of the caput itself; those of each lateral pair are slightly obliquely placed, and are contiguous to each other, the foremost being separated from the fore central eye nearest to it by the space of an eye's diameter; the eyes of the fore central pair are the smallest of the eight, but not quite contiguous to each other.

The *legs* are short, moderately strong, and of a yellow-brown colour, tinged with reddish; they are furnished with hairs and a very few slender erect bristles; and their relative length is 4, 1, 2, 3.

The *palpi* are of moderate length and strength; their colour is pale yellow-brown: the cubital joint is strong, its fore extremity much stronger than its hinder one, and it is also much longer than the radial joint; this latter is very short and weak, but has its fore extremity on the inner side produced into a longish, curved, tapering apophysis, whose point is directed outwards; and opposed to it is a small prominent, obliquely truncated projection, which springs from the outer side of the extremity of the joint; the digital joint is rather small, but of ordinary form; the palpal organs are prominent and rather complex, with a somewhat circularly curved, reddish brown spine connected with their fore extremity.

The *falces* are small, directed backwards, and armed with a few very minute teeth towards their extremities on the inner sides; their colour is similar to that of the cephalothorax.

The *maxillæ* and *labium* are similar in colour to the falces, and of normal character in other respects.

The *sternum* is of ordinary form, but very convex; and its surface, though glossy, is thickly covered with small, round, shallow punctures; its colour is similar to that of the cephalothorax.

The *abdomen* is of tolerable size, not particularly convex above, but projects closely and considerably over the base of the cephalothorax; its upperside is completely covered by a dark, rich yellow-brown, coriaceous epidermis, pretty thickly marked with roundish

punctures, and clothed thinly with short hairs; the sides (below the coriaceous epidermis of the upper part) are yellowish, marked with indistinct longitudinal bars of a blackish hue; the spiracular plates, and a portion of the surface surrounding the spinners, are of a red-brown colour, the rest of the underside being coloured like the sides.

The *adult female* is rather larger than the male, and wants the occipital eminence, the coriaceous epidermis of the abdomen is of a similar nature, but does not extend so far backward. The genital aperture is, as usual, of characteristic form (see *d*, fig. 20).

This species is nearly allied to *Erigone nemoralis* (Bl.); but the male may be at once distinguished by the strongly bilobed form of the occipital eminence, this peculiarity being scarcely perceptible in that species; another closely allied species also—*E. pavida* (Cambr.), found in Palestine—may be distinguished by the perfectly confluent form of the upperside of the occipital eminence; and from both these species the present one differs in the form of the palpi and structure of the palpal organs.

An adult example of each sex was received from M. Eugène Simon, by whom they were found near Troyes, France.

ERIGONE CORRUGIS, sp. n. (Plate XXIX. fig. 21.)

Adult male, length rather under 1 line (about $\frac{1}{1\frac{1}{3}}$ of an inch).

The colour of the *cephalothorax* of this Spider is yellow-brown; the thoracic region suffused with dusky blackish, and the lateral margins edged with black; the *sternum* is rather darker, while the *falces*, *maxillæ*, and *labium* are similar to the *cephalothorax* in colour, the legs and palpi being pale yellow. The *caput* has its fore part full, bluff, and rounded; on the upperside towards the occiput is a tolerably strong eminence, of a somewhat bent form (looked at in profile), and directed forwards; this is caused by a strong indentation or excavation in front at its lower part where the *caput* proper begins; this excavation is a good deal obscured by numerous short bristly hairs, which, springing from the fore part of the eminence as well as from the *caput* below, meet across it. A considerable portion of the upperside of the fore part of the *caput* is clothed with short hairs, including the two lateral as well as the lower central pair of eyes. There are also two longish erect bristly hairs in the median line of the upper part of the *cephalothorax*—one at the base behind the occipital eminence, the other at the thoracic junction.

The *eyes* are small, in the ordinary position; those of the upper pair, separated from each other by no more than an eye's diameter, are placed in front on the upperside of the occipital eminence; those of each of the other three pairs, respectively, are contiguous to each other, and placed in a transverse straight line comprising the whole width of the fore part of the *caput* just below the gap between it and the occipital eminence; the eyes, looked at from the front, thus form a subtriangular figure, whose base is longer than a perpendicular line let fall upon it from the obtuse angle formed by the upper pair of eyes; the height of the *clypeus* exceeds half that of the facial space.

The *legs* are of tolerable length, slender, thinly furnished with hairs and fine bristles, of which last there are several short erect ones on the uppersides of the tibial joints; they are not very different in length; but those of the third pair are the shortest.

The *palpi* are of moderate length; the cubital joint is longer than the radial, and its fore part is stronger than its hinder extremity; the radial joint is short but strong, and the fore extremity on the upperside is produced into a long strong, somewhat bent, apophysis, the extremity of which terminates in a hook whose point is directed outwards; the radial joint, together with its apophysis, rather exceeds the cubital joint in length; the digital joint is of moderate size, and oval form; the palpal organs are prominent, complex, and have a slender, coiled, filiform spine at their extremity.

The *fulcres* are small, rather divergent, strongly inclined backwards towards the sternum, and armed towards their extremity on their inner sides with minute teeth.

The *maxillæ*, *labium*, and *sternum* are normal in form.

The *abdomen* projects considerably over the base of the cephalothorax; it is of an oval form, and moderately convex above; its colour is black, with some mottlings and chevron-like markings visible (perhaps only) in spirit of wine, and of a yellowish colour; it is thinly clothed with hairs, and the hinder part of the upperside is transversely wrinkled, the folds of the epidermis being rather marked and characteristic.

The adult female resembles the male in general characters, and also in the transverse folds of the hinder part of the upperside of the abdomen (these, however, are fewer in number than in the male); but the colours are darker, the legs being shorter, stouter, and tinged with orange-red. The cephalothorax is of ordinary form, no traces of the cephalic eminence being visible, the eyes being consequently more closely grouped together, and the relative position of the different pairs altered; the clypeus is rounded and prominent; the occiput has also a very slight shining convexity, and immediately behind it is a largish dark blackish patch, from which obscure blackish lines radiate, indicating the normal grooves and indentations. The genital aperture is characteristic (fig. 21, *f*).

An adult example of each sex was received from M. Eugène Simon, by whom they were found in Corsica. It is a very distinct species, bearing some resemblance to *Erigone fuscipes* (Bl.), but perhaps more nearly allied to *E. fastigata* (Bl.).

ERIGONE BIOVATA, sp. n. (Plate XXIX. fig. 22.)

Adult male, length $\frac{3}{4}$ of a line.

The whole of the fore part of this Spider, both above and underneath, is of a pale straw-colour. The cephalothorax strikes one at once as very similar to that of *E. bifrons* (Bl.); the fore part of the caput is broad, boldly rounded below and elevated above, being divided longitudinally by a deepish valley into two somewhat oviform lobes; a large deep oval excavation, narrowing to a point at the occiput, divides the lobes on either side from the lower part of the

caput; and within the excavation at its larger end, just behind the hind lateral eye, is a shining, silvery, roundish spot; the clypeus is full and prominent, its height appearing slightly to exceed half that of the facial space; a few short hairs directed downwards are disposed on the space between the fore and hind central pairs of eyes.

The *eyes* are very minute, but disposed in the usual four pairs, and seated on black spots; those of the upper or hind central pair appear to be the smallest of the eight; they are seated just in front of the summit of the cleft which divides the two lobes of the caput, and each is about an eye's diameter on one side of a dark, yellow-brown, longitudinal line running along the bottom of the cleft; the other three pairs of eyes are in a nearly straight transverse line at the upper part of the lower segment of the caput; those of the fore central pair are rather larger than those of the hind central, contiguous to each other, dark-coloured, and forming a line not quite as long as those of that pair. The eyes of each lateral pair are placed obliquely, but not quite contiguous to each other, the fore laterals being the largest of the eight, and each is separated by about a diameter's distance from the eye nearest to it of the fore central pair; the distance between the fore and hind central pairs is about equal to that from between the eyes of one lateral pair to between those of the other; looked at in front the fore laterals and fore centrals form a straight transverse line.

The *legs* are moderate in length and strength; their relative length apparently 4, 1, 2, 3, though the difference between those of the first and fourth pairs is exceedingly small; they are furnished with hairs; and each has one or two short prominent dark bristles on the uppersides.

The *palpi* are rather short and slender; the cubital is longer but less strong than the radial joint: this latter has its fore extremity on the upperside rather expanded, with two small prominent points, or the fore extremity may be described as having its upper margin emarginated; the digital joint is small, and the palpal organs prominent and well-developed, but not very complex, with a minute curved, dark, filiform tapering spine at their extremity. The *maxillæ*, *labium*, and *sternum* present no unusual feature either in form or structure.

The *falces* are moderate in length and tolerably strong; they are inclined backwards to the labium, and are armed with a few small sharp teeth towards the extremity on their inner margins.

The *abdomen* is of ordinary form, and projects (but not greatly) over the base of the cephalothorax; it is of a dull brownish yellow colour, a large oval patch at the hinder extremity on the upperside being pale luteous (this may, however, be accidental) and thinly clothed with hairs.

Although allied to *E. bifrons* (Bl.), it may easily be distinguished by the greater development and wider spread of the ovate lobes of the caput, as well as by a totally different position of the eyes, which are much smaller, and by a different colouring of the whole

Spider; the form and structure of the palpi and palpal organs are also different.

A single adult male was received from M. Simon, by whom it was captured at Rouen.

ERIGONE BUCEPHALA, sp. n. (Plate XXIX. fig. 23.)

Adult male, length $1\frac{1}{4}$ line; length of the female $1\frac{1}{2}$ line.

The *cephalothorax* is of a bright reddish orange-yellow colour, the caput being strongly tinged with brown; the thorax is covered with dark, conspicuous punctures, disposed mostly in converging lines, which follow the course of the normal indentations; towards the margins these punctures are less regularly placed: the caput is elevated and prominent; the fore extremity, being the upper portion of the clypeus, projects forwards in a bold, obtuse, nose-like form, slightly bent downwards; and on the occiput is a large, almost globular eminence, deeply cut away or indented on either side of the fore part at its base, the indentation extending backwards for about half its width; the upper part of this eminence has a few short erect hairs on its smooth and glossy surface; and some more conspicuous hairs are also disposed along the middle of the ocular area in a longitudinal direction; those above the indentations are directed downwards, those below upwards; the lower part of the clypeus is strongly retreating.

The *eyes* are in the usual four pairs; and in this species the pairs are rather widely separated from each other—one pair (in a transverse line) on the fore part of the top of the globular eminence, about two diameters distance from each other, another pair on either side, a little below the indentation which divides the eminence from the lower segment of the caput; the eyes of each of these pairs are on a small tubercular eminence respectively, and are contiguous to each other: the fourth pair is placed just at the commencement of the nose-like prominence; these are the smallest of the eight, dark-coloured, and are very near, if not contiguous, to each other: the ocular area is thus very large, its length also being greater than its breadth.

The *legs* are moderate in length and strength, their relative length appearing to be 4, 1, 2, 3; they are of a bright orange-yellow colour, tinged with reddish, and are furnished with hairs and a very few fine erect bristles; these last are more conspicuous in the female, being of a spinous nature.

The *palpi*, except the radial and digital joints, which are dark brownish-yellow, are similar in colour to the legs; they are moderately long, but strong, the humeral and cubital joints being very nearly as strong as the femora of the first pair of legs: the cubital is long, strong, bent downwards, and slightly larger at its fore than at its hinder extremity: the radial is exceedingly short, and not nearly so broad as the fore extremity of the cubital joint; it has its fore extremity on the upperside produced into a longish apophysis, whose extremity is emarginate or bifid, the outer limb of the bifid portion being prominent, sharpish-pointed (with a short, spine-

like hook, not easily seen, at its extreme point), and much longer than the other; from the outer side of the radial joint there issues a short, slightly curved, tapering, sharp-pointed, blackish spine; the whole length of the radial joint and its apophysis is less than that of the cubital: the digital joint is rather large, somewhat roundly truncate at its hinder extremity: the palpal organs are very prominent, highly developed and complex; at their base, near the outer side, is a circularly curved, reddish spiny process; about the middle of their outer side is a large, somewhat globular, whitish corneous lobe, in front of which is a circularly curved, black, flattish spine, its prominent extremity obtuse and bifid; and within its curvature is a prominent, obtuse, corneous process.

The *falces* are rather weak, but of moderate length, and similar to the cephalothorax in colour.

The *maxillæ* are strong, of normal form, and, with the *labium*, similar in colour to the *falces*.

The *sternum* is of a reddish orange-yellow colour, and its surface is covered with punctures similar to those on the thorax.

The *abdomen* is large, oval, and projects considerably over the base of the cephalothorax; it is moderately convex above, and clothed with short bristly hairs; the sides and hinder part are longitudinally rugulose, blackish, with yellowish-brown between the wrinkles; and the upperside is covered with a coriaceous epidermis of a deep blackish bistre-brown colour, thickly set with punctured spots.

The *female* is rather larger than the male, but resembles it in colours and general characters, the thorax and sternum being similarly punctured, and the upperside of the abdomen also covered with a coriaceous punctured epidermis; the occiput is roundly gibbous; and the eyes (as in all other females of this group) more closely massed together; those of the hind central pair being but one diameter's distance from each other; the form of the genital aperture is, as usual, characteristic, being of a somewhat triangular shape.

An adult example of each sex was received, in January 1872, from M. Simon, by whom they were found in Corsica.

ERIGONE PROTUBERANS, sp. n. (Plate XXIX. fig. 24.)

Adult male, length nearly $1\frac{1}{4}$ line.

This Spider is allied to *E. latifrons* (Camb.); but its caput is less distinctly divided into two segments by a longitudinal indentation over the summit of its elevated portion. The clypeus, whose height is half that of the facial space, is furnished with some hairs just below the fore central pair of eyes; the space clothed with hairs is defined by being rather darker than the rest; the palpal organs are complex, and, besides several irregular corneous processes, a sharp-pointed, strongish, filiform spine issues from their extremity on the outer side, and, curving upwards and backwards, has its sharp point near their centre, more than halfway towards the hinder extremity of the digital joint and below the hinder part of the radial joint; this joint is strong though shorter than the cubital, and